

SBO1-012 QUIET DANGER: CARBON MONOXIDE

August 2001 (Revised)

What Is It?

Carbon Monoxide (CO) is an odorless, colorless gas that interferes with the delivery of oxygen in the blood to the rest of the body. It is produced by the incomplete combustion of fuels.

What Are the Major Sources of CO?

Carbon monoxide is produced as a result of incomplete burning of carbon-containing fuels including coal, wood, charcoal, natural gas, and fuel oil. It can be emitted by combustion sources such as unvented kerosene and gas space heaters, furnaces, woodstoves, gas stoves, fireplaces and water heaters, automobile exhaust from attached garages, and tobacco smoke. Problems can arise as a result of improper installation, maintenance, or inadequate ventilation.

What Are the Health Effects?

Carbon monoxide interferes with the distribution of oxygen in the blood to the rest of the body. Depending on the amount inhaled, this gas can impede coordination, worsen cardiovascular conditions, and produce fatigue, headache, weakness, confusion, disorientation, nausea, and dizziness. Very high levels can cause death. Carbon monoxide can't be seen, tasted, or smelled. It won't tickle your throat or make your eyes irritated. It sickens and kills without a sound.

What are the Symptoms of CO?

The earliest symptoms of carbon monoxide asphyxiation are usually a headache accompanied by dizziness, blurred vision, and sleepiness. With continued exposure comes shortness of breath, nausea, vomiting, fluttering and throbbing of the heart, and finally unconsciousness. Not all the symptoms occur in every case. Symptoms may show up so gradually that victims may not be aware of the danger. They become drowsy and fall asleep-permanently. The length of exposure and concentration of carbon monoxide is important. Air containing only one percent of carbon monoxide can kill a person within five minutes.

Precautions:

Ensure there is adequate ventilation, whether at home, in a vehicle, in the field or in the workplace. Adequate ventilation is the best defense against carbon monoxide asphyxiation. Check vehicle exhaust systems, especially for blown gaskets, leaking pipe connections, and holes in mufflers and tailpipes. Consult the technical manual when installing and operating all heating stove systems. Never leave the stove unattended and never use heaters in areas where flammable vapor or gases may be present. When a stove is used in a sleeping tent, the commander is responsible to ensure that a fireguard is present and remains awake, the same as for any heating stove in a sleeping tent.

Do not sleep in tightly enclosed areas, near vehicle exhausts, or in the vehicle with the engine running.